

adding a fluorescent dye to a supply of oil to form a uniform mixture;

locating a heating element in a sealed chamber;

blowing at least some of said uniform mixture of oil and fluorescent dye towards said heating element within said sealed chamber by means of a non-combustible nitrogen gas delivered under pressure to said mixture;

heating the blown mixture by said heating element so that said oil is vaporized into smoke within said sealed chamber to create a carrier for said fluorescent dye, said non-combustible nitrogen gas preventing dieseling within said sealed chamber and the possibility of an explosion at the volatile potentially explosive environment in which the fluid system will be tested;

delivering said smoke and said fluorescent dye carried thereby to the fluid system under test, whereby said smoke will exit a leak in the fluid system and said fluorescent dye will leave a fluorescent trace around the leak; and

shining ultraviolet light on the fluid system under test to illuminate the trace left by the fluorescent dye around the leak.

Please insert the following new claims:

2 12. The method for detecting leaks recited in Claim 11, including the additional steps of placing the uniform mixture of oil and fluorescent dye within the sealed chamber and heating said at least some of the mixture by means of said heating element located within said sealed chamber.

3/13. The method for detecting leaks recited in Claim 12, including the additional step of locating said heating element within said sealed chamber above said uniform mixture of oil and fluorescent dye.

4/14. The method for detecting leaks recited in Claim 12, including the additional step of connecting a gas inlet tube to a source of said non-combustible nitrogen gas, said gas inlet tube communicating with said uniform mixture of oil and fluorescent dye within said sealed chamber to deliver the non-combustible nitrogen gas under pressure from said source to said mixture for blowing said at least some of said mixture towards said heating element.

5/15. The method for detecting leaks recited in Claim 14, wherein said gas inlet tube has an inlet orifice formed therein and located within said uniform mixture of oil and fluorescent dye within said sealed chamber, said gas inlet tube extending above said mixture so that said at least some of said mixture is suctioned through said inlet orifice and blown towards said heating element by means of the non-combustible nitrogen gas delivered under pressure to said mixture by said gas inlet tube from said source thereof.

6/16. The method for detecting leaks recited in Claim 12, including the additional step of connecting a smoke outlet line to communicate with said sealed chamber at a location above said uniform mixture of oil and fluorescent dye so that the smoke produced when said at least some of said mixture is vaporized is conveyed to the fluid system under test at the volatile potentially explosive environment via said smoke outlet line.

17. The method recited in Claim 11, wherein the fluid system to be tested for leaks at the volatile potentially exploding environment is the evaporative system of a motor vehicle through which a working gas or liquid is transported under pressure.

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